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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,978	03/19/2002	Michiya Okada	62807-055	5511

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McDermott, Will & Emery
600, 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

VARGAS, DIXOMARA

ART UNIT PAPER NUMBER

2859

DATE MAILED: 11/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/099,978

Applicant(s)

OKADA ET AL.

Examiner

Dixomara Vargas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-4 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (U. S. Patent 5,552,709) in view of Oka et al. (US 6,169,402).

With respect to claim 1, Anderson discloses a nuclear magnetic resonance spectrometer for liquid-solution which comprises (abstract) a superconductive magnet (Figure 1; #11), a high frequency transmission coil and a reception coil and in which a sample such as protein dissolved in a liquid-solution is charged (Column 3, lines 1 – 4 and Figure 1; #20) in a sample tube of a diameter of 5 to 10 mm and is inserted substantially vertically (Column 5, lines 56 – 59 and

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Figure 1; #16), wherein a stationary magnetic field generated by said superconductive magnet is 11 T or more (Column 1, lines 45 – 48), the direction of the stationary magnetic field generated by said superconductive magnet is in the horizontal direction (Figure 1), a change per hour of proton nuclear magnetic resonance frequency due to a change of said stationary magnetic field is 1.0 Hz or less, the uniformity of said stationary magnetic field in a sample space is 1.0 Hz or less in terms of proton nuclear magnetic resonance frequency (Column 3, lines 53 – 55 and Column 1, lines 13 - 26), said liquid solution sample is inserted in the magnetic field center substantially vertically from above (Figure 1), and said reception coil is a solenoid coil inserted in the magnetic field center from below the spectrometer (Column 3, lines 46 – 49).

Anderson discloses the claimed invention as stated above except for the magnet includes a paired split magnets for generating a magnetic field in horizontal direction. However, Oka discloses the use of split magnets for generating a magnetic field in horizontal direction (Figure 5, #52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Oka's split magnets with Anderson's NMR spectrometer for liquid-solution for the purpose of applying a distributed main field in horizontal direction to the sample.

4. With respect to claim 2, see rejection of claim 1 above. Anderson also discloses a spectrometer cooled to a superconductivity revealing temperature or less (Column 2, lines 58 – 61).

5. With respect to claims 3 and 4, Anderson discloses said organic sample is a polymer organic compound, protein or ligand. (Column 7, lines 1 – 28).

6. With respect to claims 7 and 8, Andersons discloses said superconductive magnet includes a toroidal magnet placed horizontally (Figure 1).

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7. With respect to claim 9, see rejection of claims 2 and 7 above.
8. With respect to claim 10, Anderson discloses said superconductive magnet is a toroidal magnet placed horizontally and in order to discriminate nuclear magnetic resonance signals generated from adjacent plural samples from each other (Figure 1), the magnetic field intensity applied to the individual samples is regulated (Column 8, lines 25 – 43).

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1-4 and 7-10 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-4 and 7-10 of copending Application No. 10/208838. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: nuclear magnetic resonance spectrometer for liquid-solution which comprises: a superconductive magnet, wherein the magnet includes a paired split magnets for generating a magnetic field in horizontal direction, a high frequency transmission coil and a reception coil and in which a sample such as protein dissolved in a liquid-solution is charged in a sample tube of a diameter of 5 to 10 mm and is inserted substantially vertically, wherein a stationary magnetic field generated by said superconductive magnet is 11 T or more, the direction of the stationary magnetic field generated by said superconductive magnet is in the horizontal direction, a change per hour of proton nuclear magnetic resonance frequency due to a change of said stationary magnetic field is 1.0 Hz or less, the uniformity of said stationary magnetic field in a sample space is 1.0 Hz or less in terms of proton nuclear magnetic resonance frequency, said liquid solution sample is inserted in the magnetic field center substantially vertically from above, and said reception coil is a solenoid coil inserted in the magnetic field center from below the spectrometer .

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Response to Arguments

11. Applicant's arguments with respect to claims 1-4 and 7-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art cited at the PTO 892, discloses an MR structure with split magnets.

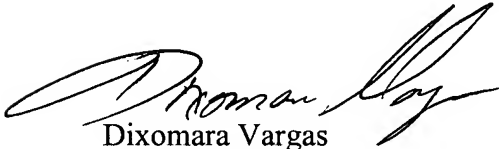
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (703) 305-5705.

The examiner can normally be reached on 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (703) 308-3875. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3432 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-0956.



Dixomara Vargas
Art Unit 2859
October 30, 2003



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800